



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,822	05/29/2001	Dagnachew Birru	US 010264	5104
24737	7590	09/07/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			WARE, CICELY Q	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/866,822	Applicant(s) BIRRU, DAGNACHEW	
	Examiner Cicely Ware	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Pg. 3, line 5, applicant uses the phrase "reason why a easily". Examiner suggests applicant use "reason why an easily" for clarification purposes.
 - b. Pg. 3, line 25, applicant uses the phrase "DFE of Fig. 1 has be modified". Examiner suggests applicant use "DFE of Fig. 1 has to be modified" for clarification purposes.
 - c. Pg. 4, line 1, applicant uses the phrase "conventional DFEs, such as thus discussed above". Examiner suggests applicant use "conventional DFEs, such as those discussed above" for clarification purposes.
 - d. Pg. 4, line 13, applicant uses the phrase "what is need is". Examiner suggests applicant use "what is needed is" for clarification purposes.
 - e. Pg. 9, line 8-9, applicant uses the phrase "channels that contains significant". Examiner suggests applicant use "channels that contain significant" for clarification purposes.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 5 recites, "adapted to process". "Adapted to" is vague and indefinite because it fails to particularly point out a definite process.

b. Claim 8 recites, "adapted to process". "Adapted to" is vague and indefinite because it fails to particularly point out a definite process.

4. Claims 5 and 8 recite the limitation:

a. "the main channel" in Claim 5, line 5. There is insufficient antecedent basis for this limitation in the claim.

b. "the main channel" in Claim 8, line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Adireddy et al. (US Patent 6,754,294).

With regard to claim 1, Adireddy et al. discloses in (Fig. 4), first (415, 420) and second (430, 435) feedback equalizer signals for controlling a decision feedback equalizer, wherein the first feedback equalizer signal is delayed by an implementation delay and wherein the second feedback equalizer signal is free of the implementation delay (col. 8, lines 64-67, col. 9, lines 1-6, 12-15).

Fig. 4 illustrates wherein the first feedback equalizer (415, 420) is delayed by S_{k-d} , where d is the delay from the symbol estimator. However the second feedback equalizer (430, 435) is free of delay because it transmits only the known symbols S_k .

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adireddy et al. (US Patent 6,754,294) in view of Crespo (US Patent 5,020,078).

(1) With regard to claim 2, Adireddy et al. discloses in (Fig. 4) a decision feedback equalizer (DFE) (405), comprising: a forward equalizer; first and second adders (410, 425); a decision device (415) (col. 8, lines 64-67, col. 9, lines 1-3, 7-21,

Art Unit: 2634

col. 10, lines 21-22); a feedback equalizer (410, 415, 420), the first and second adders, the decision device and the feedback equalizer constitute a first feedback loop (410, 415, 420, 425); and the second feedback loop is free of an implementation delay associated with the first feedback loop (col. 9, lines 7-21).

However Adireddy et al. does not disclose an N-tap filter; the second adder, the decision device, and the N-tap filter constitute a second feedback loop; and N is a positive integer.

However Crespo discloses in (Fig. 3) an N-tap filter (61); the second adder (57), the decision device (44), and the N-tap filter (61) constitute a second feedback loop; and N is a positive integer (col. 2, lines 47-57, col. 5, lines 62-67, col. 6, lines 6-16).

Therefore it would have been obvious to one of ordinary skill in the art to modify Adireddy et al. to incorporate an N-tap filter; the second adder, the decision device, and the N-tap filter constitute a second feedback loop; and N is a positive integer in order to cancel the sampled received far-end signal and optimize the timing phase (Crespo, col. 2, lines 47-57).

(2) With regard to claim 3, claim 3 inherits all the limitations of claim 2. Crespo further discloses wherein the N-tap filter is implemented in fast logic (col. 7, lines 64-68, col. 8, lines 1-9).

(3) With regard to claim 4, claim 4 inherits all the limitations of claim 2. Adireddy et al. further discloses in (Fig. 3 (325) and Fig. 4) a digital television receiver including the DFE (col. 5, lines 35-40, col. 6, lines 7-11).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
September 3, 2004


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800